

Remarks

Claims 8, 19 and 20 were allowed in the last Office Action, and claim 9 would be allowed if made self-contained. The remaining claims pending in this application were rejected.

Allowed claim 19 has been amended to refer to an "indicator" instead of to an "indicator means". This is not believed to affect the allowance of claim 19. A similar amendment has been made in claim 1 and in claims dependent from claim 1 which previously referred to the "indicator means".

Claim 1 also has been amended to emphasize that liquid level indicator allows the level of a liquid within a container to be determined using ambient temperature measurements. As such, embodiments of the invention do not require the use of a heater.

In contrast, Snelling et al. describes a liquid level detector system that is *entirely dependent upon actively heating the liquid* within the vessel 22. As such, the system described in Snelling et al. requires the provision of a complicated heater 40 arrangement, that needs to be carefully positioned with respect to the sensors. In the absence of the heater, the detector system described in Snelling et al. simply would not function correctly.

Snelling et al. does not describe or suggest the use of ambient temperature measurements. Indeed, Snelling et al. explicitly teaches that liquid level detection should be carried out by heating the liquid and analyzing its behavior in response to that heating. It is respectfully submitted that the skilled person regarding Snelling et al. would not find it obvious to develop liquid level detection using measurements of ambient temperature, as this would involve removing a key element of the detector system from Snelling et al., namely the heater 40.

The need for a heater can be eliminated by comparing differences in ambient temperature with a pre-set temperature condition. The temperature condition (of which there can be more than one) can be pre-set to allow determinations such as "the container is (not) in use" and/or "the liquid level is below the level of the indicator" to be made. Consequently, a less expensive and less complex liquid level detector can be provided.

It is further noted that none of the other cited documents have been found to teach or suggest liquid level detection using comparisons of differences in ambient temperature with a pre-set temperature condition.

In regard to the Examiner's comments on the nature of the pre-set condition, it is noted that claim 1 as amended recites a "pre-set temperature condition" (e.g. 1°C, 0.5°C, or 0.05°C, as described in the specification (see page 14, line 21 and line 31)). The heater energy output in Snelling et al, is not a temperature condition.


Regarding the Examiner's comments on the measurement of ambient temperature, it is accepted that Snelling et al. states that "the heater may be actuated...", Snelling et al., however, does not function to measure liquid level until the heater is in fact actuated. Snelling et al. does not measure liquid level using ambient temperature measurements.

In summary, it is respectfully submitted that the liquid level indicator of claim 1 is novel and nonobvious with respect to the cited art.

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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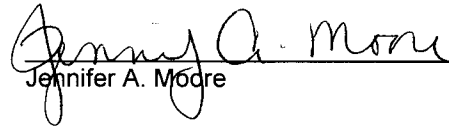
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